



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

December 14, 2018

Jim Harrington
Colorado Legacy Land, LLC
4601 DTC Boulevard, Suite 130
Denver, CO 80237

**RE: Schwartzwalder Mine; DRMS File No. M-1977-300; Adequacy Review No. 1 –
Technical Revision No. 27 (TR-27)**

Dear Mr. Harrington,

The Division of Reclamation, Mining and Safety (Division) received Technical Revision No. 27 (TR27) for the above referenced operation on November 27, 2018. The decision date for this Technical Revision is December 27, 2018. The Division has reviewed the Technical Revision Application and has the following comments:

1. The Operator is proposing to submit a single quarterly sampling report which provides the results of the quarterly sampling event. Please confirm the quarterly sampling report will continue to include the laboratory analytical results and the chain of custody forms.
2. The Operator did not include the sumps in the groundwater sample locations. Please provide a list of all sumps which are being sampled and confirm the proposed changes to the sampling methodology and reporting include the sump locations.
3. The Operator is proposing to relocate the submersible pump to a new location utilizing the Jeffrey air shaft. Please describe what steps will be taken to ensure the new pump and associated infrastructure are working properly before the current pump and infrastructure are taken off-line.
4. As noted above, the new submersible pump will be installed within the Jeffrey air shaft. The Operator removed an existing closure from the Jeffrey air shaft to gain access to the underground workings. Please confirm, that upon final closure of the site, the air shaft will be sealed in the manner approved under Technical Revision No. 8. If an alternate closure method will be utilized, then provide the Division with the design details of the proposed closure.
5. Please describe any changes in how water pumped from the mine pool will be conveyed to the water treatment plant, which result from relocating the submersible pump. In addition, provide design details for any changes to the existing infrastructure. The water treatment plant and associated infrastructure are designated as an Environmental Protection Facility, as such the Operator will be required to submit as-built drawings of the water treatment plant and associated infrastructure as required by Rule 7.3.2. The Division will require as-built drawings and construction certification to be submitted within 30 days of approval of the Technical Revision.



6. Please provide a general discussion of how the mine pool will be managed as a result of lowering the submersible pump. The discussion should address the periods of time the water treatment plant will be operational, the expected mine pool elevations during periods of water treatment, as well as during periods when the water treatment plant is off-line.
7. The Operator is proposing to remove several total and dissolved metals from the groundwater sample suite, all of which are contained within Tables 1 through 4 of “The Basic Standards for Ground Water” (Regulation No. 41). The Division is an implementing agency, responsible for implementing Water Quality Control Commissions’ (WQCC) standards and classifications for discharges through its own regulatory programs after consultation with the WQCC and the Water Quality Control Division. Therefore, the Operator must make a demonstration that the analytes proposed for removal are not currently exceeding the Table Value Standards in Tables 1-4. Any analytes which exceed the Table Value Standards, must remain in the groundwater sample suite. If a particular analyte is not exceeding the Table Value Standard, then this analyte could potentially be removed from the groundwater sample suite. In accordance with Rule 3.1.7(8), an Operator shall demonstrate to the satisfaction of the Division, that reclamation has been achieved so that existing and reasonable potential future uses of groundwater are protected. Therefore, any analytes which meet the criteria for removal will need to be added back into the groundwater sample suite prior to release of the Reclamation Permit, as part of the Operator’s demonstration under Rule 3.1.7(8).
8. The Operator has indicated monitoring wells MW-4 and MW-5 were removed in 2008. Please explain why these monitoring wells were removed. In addition, provide documentation which demonstrates the removed wells were abandoned in accordance with the requirements of the Division of Water Resources. Finally, a review of the Environmental Protection Plan approved in 2012 and revised in 2016, lists MW-4 as an existing well. Please clarify this discrepancy.
9. The Division conducted a review of the various permit revisions which authorized new groundwater sampling locations and discovered that several of the reported Sample IDs do not match the Sample IDs which were provided to the Division in the permit revisions. Please review the following table and specify which of the currently reported Sample ID’s are associated with the Sample IDs listed below:

Sample IDs Not Reported	Associated Permit Revision	Notes
L1	TR19	Replaced MW-10
L2	TR19	Replaced MW-11
L3	TR19	
L4	TR19	
L5	TR19	
L6	TR19	
L7	TR19	
Mine Refill	EPP	

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10. The Technical Revision included Table 2: Groundwater Sample Field Parameters, which provided the Operator's notes on the sampling locations. The Operator has indicated that MW-9 is not sampled since it is tied in with the sumps and MW-11 is not sampled due to bentonite in the screened interval. However, the Water Quality Data and Mine Pool Level Measurements for March 2018 submitted on May 8, 2018 included analytical data for MW-9 and MW-11. Please clarify this discrepancy.
11. The Division has conducted a review of the groundwater data submitted for the 1st quarter of 2018 and has found the following locations were not sampled as required: MW-6, MW-7, MW-8, MW-12 and MW-17. Please confirm the Division's findings and provide an explanation as to why these locations were not sampled or provide the missing analytical data. In addition, the Division requests the Operator review all groundwater data submitted since January 1, 2018 and provide a table and provide an accounting of which sample locations were sampled during each quarter to date.

This concludes the Division's adequacy review of this Technical Revision. Please remember that the decision date for this Technical Revision is December 27, 2018. As previously mentioned, if you are unable to provide satisfactory responses to any inadequacies prior to this date, it will be your responsibility to request an extension of time to allow for continued review of this Technical Revision. If there are still unresolved issues when the decision date arrives and no extension has been requested, the Technical Revision will be denied.

If you have any questions, please contact me at (303)866-3567 x8116.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike C.", is positioned above the printed name of the sender.

Michael A. Cunningham
Environmental Protection Specialist

CC: Elizabeth Busby, Alexco Water and Environment Inc.